8 周正念训练联合太极拳运动对大学生正念水平和体成分影响的研究

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摘要：研究目的：正念训练与太极拳运动(以下简称“正念太极拳”)是一种合并的训练方法,太极拳运动在体成分方面已有相关研究,但正念(Mindfulness)训练和八周太极拳运动结合的正念太极运动干预对大学生正念水平和体成分方面的影响尚不清楚。鉴于此,本研究以在校进行常规工作学习且未进行规律运动的大学生为对照组, 探讨了 8 周正念太极运动干预对大学生体成分（体重、BMI、体脂率、骨骼肌含量、水分、蛋白质含量）的影响。**研究方法：**本研究以北京某高校非体育专业健康男大学生为研究对象, 排除心血管疾病、呼吸系统疾病、骨关节疾病、抑郁症、焦虑症等情况，最终纳入 66 名符合本研究要求的研究对象，平均年龄 18 至 21 岁，随机分为对照组（33 人）和实验组（33 人）。对照组选择未进行规律运动的大学生, 不对其进行额外的正念训练或运动干预, 实验组进行为期 8 周的正念太极拳干预, 实验所采用的干预中太极拳部分选择以杨氏太极拳动作为基础的八式太极拳, 其不仅动作符合太极拳的基本技术特点，如步法、身法、手法、重心的移动、 全身协调发力动作之间的衔接清晰、流畅、动作简洁、易学、美观大方。正念部分则是配合以正念无极桩以舒缓，柔和的音乐来引导习练者专注于自身、回归内心的平静。其精髓是帮助习练者集中注意力，在练习过程中使内心得到平静, 通过练习正念太极拳, 鼓励习练者勇于面对现实中遇到的困难, 培养习练者积极的、开放的心态，来应对生活中产生的负面情绪与想法。此方案设计不失研究成果的生态性。运动时间为每次 40min，其中配合正念引导语进行的无极桩练习 5min,八式太极拳练习 30min（4min*6 套，组间间歇 1min），音乐配合的无极桩放松部分 5min，运动频率为每周 3 次。采用 2003 年 Brown 和 Ryan 编制的正念注意觉知量表（MAAS）来评价干预前后正念水平。选用 In Body 220 生物阻抗人体成分分析仪对实验对象的体重、BMI、体脂率、骨骼肌含量、水分、蛋白质含量进行测量来评价干预前后的身体体成分指标。运用 SPSS 27.0 对组内干预前后的正念水平、身体成分指标进行配对样本 T 检验,对干预后各组正念水平、身体成分指标的变化进行独立样本 T 检验。描述性统计采用平均数±标准差的形式描述。**研究结果：**（1）后测实验组（43.76±8.76）与对照组（56.55±16.02）正念水平（$p < 0.05$）具有显著性差异；实验组前（38.73±11.16）、后测（43.76±8.76）正念水平（$p < 0.01$）

具有非常显著性差异，干预后正念水平显著优于干预前。后测实验组（67.04±9.29）与对照组 (70.71±10.01) 体重 ($p < 0.05$) 具有显著性差异, 实验组前 (69.98±10.23)、后测 (67.04±9.29) 体重 ($p < 0.01$) 具有非常显著性差异, 干预后体重显著低于干预前；后测实验组 (21.79±2.46) 与对照组（23.06±2.75）BMI 指数（$p < 0.05$）具有显著性差异；实验组前（22.33±2.69）、后测（21.79±2.46）BMI 指数（p < 0.01）具有非常显著性差异，干预后 BMI 指数显著低于干预前；后测实验组（15.58±4.59）与对照组（16.84±4.99）体脂率（$p < 0.05$）具有显著性差异，实验组前（16.59±4.93）、后测（15.58±4.59）体脂率（$p < 0.01$）具有非常显著性差异，干预后体脂率显著低于干预前；后测实验组（107.51±9.41）与对照组（107.05±8.94）肌肉质量（$p > 0.05$）不具有显著性差异，实验组前（106.92±9.00）、后测（107.11±9.41）肌肉质量（$p > 0.05$）不具有显著性差异，干预后肌肉质量与干预前肌肉质量变化不大；后测实验组（57.39±3.38）与对照组（57.23±3.22）水分（$p > 0.05$）不具有显著性差异，实验组前（57.18±3.18）、后测（57.39±3.38）水分（$p > 0.05$）不具有显著性差异，干预后水分与干预前水分变化不大；后测实验组（21.87±1.56）与对照组（21.79±1.50）蛋白质含量（$p > 0.05$）不具有显著性差异，实验组前（21.82±1.52）、后测（21.87±1.56）蛋白质含量（$p > 0.05$）不具有显著性差异，干预后蛋白质含量与干预前蛋白质含量变化不大。**研究结论：**（1）8 周正念太极拳干预可改善大学生正念水平。（2）8 周正念太极拳干预能有效降低大学生体重、BMI、体脂率，但是对肌肉质量、水分、蛋白质含量的影响无明显差别。及 8 周正念太极拳干预只能改善练习者的部分体成分而无法全面改善练习者的体成分。该研究为大学生选择合理的运动手段提供了理论和实践基础。

关键词：正念训练；太极拳；正念水平；体成分；大学生

Study on the influence of 8-week mindfulness training combined with Taijiquan on the level of mindfulness and body composition of college students

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Abstract: Research objective: Mindfulness training and Tai Chi (hereinafter referred to as "mindful Tai Chi") is a combined training method. There have been relevant studies on the body composition of Tai Chi, but the impact of mindfulness tai chi intervention combined with mindfulness training and eight-week tai chi on the level of mindfulness and body composition of

college students remains unclear. In view of this, this study took college students who did routine work and study at school and did not do regular exercise as the control group to explore the effects of 8-week mindfulness tai Chi exercise intervention on body composition (body weight, BMI, body fat percentage, skeletal muscle content, water content, protein content) of college students.**Research methods:** This study took healthy male college students who were not majoring in physical education in a university in Beijing as the research objects, excluding cardiovascular diseases, respiratory diseases, bone and joint diseases, depression and anxiety disorders, and finally included 66 subjects who met the requirements of this study, with an average age of 18 to 21 years old, and were randomly divided into the control group (33 people) and the experimental group (33 people). The control group selected college students who did not exercise regularly and did not receive additional mindfulness training or exercise intervention; the experimental group received 8-week mindfulness Tai Chi intervention. The Tai Chi part of the intervention used in the experiment selected eight-form Tai Chi based on Yang's Tai Chi movements, which not only matched the basic technical characteristics of Tai Chi, but also showed that the Tai Chi movements were consistent with the basic technical characteristics of Tai Chi. Such as footwork, body method, technique, the movement of the center of gravity, the connection between the whole body coordination and force action is clear, smooth, simple, easy to learn, beautiful and generous. The mindfulness part is accompanied by a gentle, soft music that guides the practitioner to focus on himself and return to inner peace. Its essence is to help the practitioner to concentrate and calm the mind during the practice. Through practicing mindful Tai Chi, the practitioner is encouraged to face the difficulties encountered in reality and cultivate a positive and open mind to deal with the negative emotions and thoughts generated in life. This scheme is designed without losing the ecological nature of the research results. The exercise time was 40min each time, including 5min of non-pole pile exercise with mindfulness guidance language, 30min of eight-style Tai chi exercise (4min*6 sets, 1min interval between groups), 5min of relaxation part of non-pole pile with music, and the exercise frequency was 3 times a week. The Mindfulness Attention Awareness Scale (MAAS) developed by Brown and Ryan in 2003 was used to evaluate the level of mindfulness before and after the intervention. Body weight, BMI, body fat percentage, skeletal muscle content, water content and protein content of the subjects were measured by the In Body 220 bioimpedance human body composition analyzer to evaluate

the body composition indexes before and after the intervention. SPSS 27.0 was used to conduct paired sample T-test for the level of mindfulness and body composition before and after intervention in the group, and independent sample T-test for the changes in the level of mindfulness and body composition of each group after intervention. Descriptive statistics are described in the form of mean ± standard deviation. **Results:** (1) There was significant difference in the level of mindfulness between the experimental group (43.76±8.76) and the control group (56.55±16.02) ($p < 0.05$); The level of mindfulness in the experimental group before (38.73±11.16) and after (43.76±8.76) was significantly different ($p < 0.01$), and the level of mindfulness after intervention was significantly better than that before intervention.The body weight of the experimental group (67.04±9.29) was significantly different from that of the control group (70.71±10.01) ($p < 0.05$). The body weight of the experimental group (69.98±10.23) was significantly different from that of the control group (67.04±9.29) ($p < 0.01$), and the body weight after intervention was significantly lower than that before intervention; There was significant difference in BMI between the experimental group (21.79±2.46) and the control group (23.06±2.75) ($p < 0.05$). The BMI index of the experimental group before (22.33±2.69) and after (21.79±2.46) was significantly different ($p < 0.01$), and the BMI index after intervention was significantly lower than that before intervention; The body fat percentage of the experimental group (15.58±4.59) was significantly different from that of the control group (16.84±4.99) ($p < 0.05$). The body fat percentage of the experimental group before (16.59±4.93) and after (15.58±4.59) was significantly different ($p < 0.01$), and the body fat percentage after intervention was significantly lower than that before intervention. There was no significant difference in muscle mass between the experimental group (107.51±9.41) and the control group (107.05±8.94) ($p > 0.05$). There was no significant difference in muscle mass between the experimental group before (106.92±9.00) and the experimental group after (107.11±9.41) ($p > 0.05$). The muscle mass changed little after intervention and before intervention. There was no significant difference in water content between the experimental group (57.39±3.38) and the control group (57.23±3.22) ($p > 0.05$). There was no significant difference in water content between the experimental group before (57.18±3.18) and after (57.39±3.38) ($p > 0.05$). There was no significant difference in protein content between the experimental group (21.87±1.56) and the control group (21.79±1.50) ($p > 0.05$). There was no significant difference in protein content between the experimental group

before (21.82±1.52) and the experimental group after (21.87±1.56) ($p > 0.05$). The protein content changed little after intervention and before intervention. **Conclusion:** (1) 8-week mindfulness Tai Chi intervention can improve the mindfulness level of college students. (2) 8-week mindful Tai Chi intervention can effectively reduce the weight, BMI and body fat percentage of college students, but there is no significant difference in the influence of muscle mass, water and protein content. And 8-week mindful Tai Chi intervention can only improve part of the body composition of the practitioners, but not comprehensively improve the body composition of the practitioners. This study provides a theoretical and practical basis for college students to choose reasonable exercise means.

Key words: mindfulness training, Taijiquan, Mindfulness level, Body composition, College student